

**Dwi Putri Sunaryanti, 2012, Analysis of Kana (*Canna sp.*) Diversity Based on Morphological Characters. This Study was supervised by Dr. Hamidah and Dra. Thin Soedarti, CESA., Department of Biology, Faculty of Science and Technology, Airlangga University.**

---

### ABSTRACT

The aim of this study was to determine the grouping of the species of *Canna sp.* based on morphological characters and to know the kinds of morphological characters that influence the grouping of *Canna sp.* This study used some species of *Canna*, they were *Canna indica*, *Canna 'Warszewiczii'*, *Canna glauca*, *Canna 'King Humbert'*, *Canna 'Bengal Tiger'*, *Canna 'Cleopatra'*, and *Canna 'Orange Punch'*. This is an observational study of 39 kana's characters including morphology of vegetative organs (leaves, stems, and rhizomes) and morphology of the generative organs (flowers and fruit), with three replications for each samples. The data were analysed descriptively, using diagnostic and diagnostic differential descriptions, and the result were used to make determination key of seven *Canna sp.* Moreover, the analysis was also performed using SPSS 16.0 which yield table values similarity matrix, dendrogram, and principal component analysis (PCA) table. The result showed that the seven samples of *Canna* could be grouped in a dendrogram. Dendrogram construction showed the formation of two main groups, namely group I (*C. indica*, *C. 'Warszewiczii'*, *C. glauca*) and group II (*C. 'King Humbert'*, *C. 'Cleopatra'*, *C. 'Bengal Tiger'*, *C. 'Orange Punch'*). The main group I formed two small groups, i.e. groups III and IV (*C. glauca*), and then the group III again form two groups, namely, the group V (*C. indica*) and group VI (*C. 'Warszewiczii'*). The main group II also formed two small groups, namely group VII (*C. 'King Humbert'*, *C. 'Cleopatra'*) and group VIII (*C. 'Bengal Tiger'*, *C. 'Orange Punch'*). The group VII re-established between the two groups of in-group, the group IX (*C. 'King Humbert'*) and group X (*C. 'Cleopatra'*). While the group VIII also form two groups again, the group XI (*C. 'Orange Punch'*) and group XII (*C. 'Bengal Tiger'*). This grouping were caused by some of the most influential morphological characters based on the value of PCA analysis, ranging from the highest value to the lowest. They were width of staminodes, length of staminodes, length of outer perigonium, the colour of leaf side, thickness of rhizome, the colour of staminodes, shape of staminodes, density of spines on pollen wall ornamentation, type of leaves tips, characteristic of stigma, width of inner perigonium, number of staminodes, length of inner perigonium, characteristic of leaf blade, width of leaves, colour of stems, colour of bractea, and colour of leaf surface.

Key words: Diversity, *Canna sp.*, morphological characters, grouping